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WORK ASSIGNMENT PERFORMANCE WORK STATEMENT (PWS)

Contract No: EP-C-15-012

Work Assignment: WA-03-01

WACOR: Name: Steven C. Allgeier

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Division: Water Security Division

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Street Address: 26 West Martin Luther King Dr.

City, State, Zip: Cincinnati, OH 45268

LOE: 7,012 hours

Period of Performance: August 1, 2018 to July 31, 2019

Title: Surveillance and Response Systems

PWS Sections: 2.2, 2.6, 2.11, 2.15, 2.17

I. PURPOSE:

The purpose of this work assignment (WA) is to increase the knowledge base for Water Quality Surveillance and Response Systems (SRS) for drinking water utilities, and to use this knowledge to promote the voluntary adoption of practices relating to SRS deployment. This goal will be achieved through implementation of SRS components and practices at partner drinking water utilities.

To achieve this purpose the contractor shall support EPA in five main areas: 1) product development, 2)

outreach and training, 3) SRS implementation projects, 4) source water protection, and 5) social media monitoring. EPA has largely completed product development; however, EPA may require support to finalize a small number of products. Under outreach and training, the contractor shall support EPA in the development of factsheets, presentations, and webinars, and shall facilitate in-person workshops. Under implementation projects, the contractor shall support EPA in developing SRS capabilities at specific utilities. These implementation projects will provide an opportunity to demonstrate applications of SRS components, develop case studies for successful SRS implementation, and develop utility ambassadors for the SRS program. Under source water protection, EPA will require support in demonstration projects and regional analyses of source water threats and mitigation strategies. Under social media monitoring, EPA will require support in the evaluation of social media monitoring as a tool to inform drinking water utility surveillance and response activities.

The intended audience for the products developed under this WA is the Water Sector, including: drinking water utilities, state drinking water primacy agencies, and technical assistance providers.

This project supports programmatic needs related to EPA's national all hazards and homeland security responsibilities by improving the ability of drinking water systems to detect and respond to unusual water quality conditions in source water and distribution systems.

Other partners and external offices or agencies which should be coordinated with include: Department of Homeland Security (DHS), Centers for Disease Control and Prevention (CDC), Office of Ground Water and Drinking Water, Standards and Risk Management Division (OGWDW-SRMD), Office of Ground Water and Drinking Water, Drinking Water Protection Division (OGWDW-DWPD), American Water Works Associations (AWWA), Association of Metropolitan Water Agencies (AMWA), and Association of State Drinking Water Administrators (ASDWA).

This work assignment supports the mission of the Water Security Division (WSD) as described in the Water Security Strategy framework, which relates resources, activities, outputs, audience, short- and long- term outcomes to the WSD pillars of Prevention, Detection, Response, and Recovery. Additionally, this work assignment addresses one of the "top priority activity areas" in the *Roadmap to a Secure and Resilient Water and Wastewater Sector* (May 2017): "Improve detection, response, and recovery to contamination incidents."

II. BACKGROUND:

Homeland Security Presidential Directive 9 (HSPD9) was signed on June 30, 2004. It established a national policy to defend the agriculture and food system against terrorist attacks, major disasters, and other emergencies. HSPD9 specifically required EPA to "develop robust, comprehensive, and fully coordinated surveillance and monitoring systems ... for ... water quality that provide early detection and awareness of disease, pest, or poisonous agents." EPA's response to HSPD9 was to establish WSI, a program to develop, evaluate, and promote SRS in the Water Sector.

An SRS involves the active deployment and use of monitoring and surveillance strategies to collect, integrate, analyze, and communicate information to provide a timely warning of potential water quality problems and to initiate a response to correct the identified problem. The four surveillance components of the SRS architecture include:

- Online Water Quality Monitoring for parameters in order to detect a change from an established baseline. This includes monitoring in the source water and distribution system.
- Enhanced Security Monitoring to detect physical intrusions into a drinking water facility that provides access to finished water. This includes Advanced Metering Infrastructure to detect tampering and backflow events at service connections.
- Customer Complaint Surveillance to detect changes in the aesthetic character of the water that might indicate a deterioration in water quality.
- Public Health Surveillance to detect unusual occurrence of disease or illness in the population and to determine if it's related to contaminated drinking water.

The SRS architecture also includes two response components: Consequence Management and Sampling and Analysis. If the investigation of an alert from a surveillance component cannot rule out contamination, Consequence Management is activated to guide the investigation of and response to a possible water contamination incident. Sampling and Analysis is performed during the investigation of a possible contamination incident in an attempt to confirm contamination and identify the specific contaminant. Activities performed under sampling and analysis include field safety screening and rapid field testing that occur during site characterization as well as laboratory analysis of samples collected from the field. This component also includes routine monitoring to establish a baseline for key contaminants.

The SRS program is now mature, with a large body of guidance and tools that reflect the experience and lessoned learned from full-scale implementation of SRSs. EPA's efforts under this program are now focused on voluntary adoption of SRS practices by the water sector and evaluation of new methods, technologies, and practices to enhance and expand the SRS model.

III. QA REQUIREMENTS:

Some activities under Tasks 3, 4, and 6 in this WA require quality assurance (QA). Consistent with the Agency's QA requirements, the contractor must prepare a Project Specific Quality Assurance Project Plan (PQAPP), to assure the quality of the data used under this WA. Work on activities that require use of primary or secondary data cannot proceed until the contractor receives notification of PQAPP approval from the Contract Level Contracting Officer Representative (CLCOR) via e-mail. Consistent with the Agency's QA requirements, the contractor prepared a PQAPP under WA 02-01. Since no significant changes in data collection are expected between WA 02-01 and the work described in this work assignment, the PQAPP approved under WA 02-01, shall be used for this work assignment.

IV. DETAILED TASK DESCRIPTION:

All direction under this WA will be provided as written technical direction from the WACOR or Alternate WACOR. If provided first as verbal technical direction to the contractor, it will be confirmed in writing within 5 calendar days, with a copy to the Contract Level Contracting Officer's Representative (CL COR) and the Contracting Officer (CO), and is subject to the limitations of the technical direction contract clause. The WACOR will provide LOE estimates with each tasking and the contractor shall not exceed the estimated LOE without justification and approval by the WACOR.

Unless otherwise specified, the contractor should assume that all products listed in this WA will be developed in the following stages: outline, multiple internal drafts for EPA review, review draft for external peer review, and final draft for publication. Each initial deliverable shall be provided to the EPA WACOR in draft form for review and comment. The contractor shall incorporate EPA WACOR review comments into subsequent revisions. The EPA WACOR will coordinate peer review of the draft product. The contractor, in consultation with the EPA WACOR, shall review all comments and the contractor shall prepare a disposition of comments using a format specified by the WACOR. The contractor shall revise each product according to a revision plan approved by the EPA WACOR, and prepare it for publication. All final products will also undergo a complete technical, editorial, and managerial review. This review shall ensure that the document complies with standards in the *SRS Style Guide*, and the *EPA Style Guide*. Any products that will be published shall also be reviewed and revised for 508 compliance.

The contractor shall notify the WACOR of all staff involved in the production of technical products and guidance, and these staff shall participate in all substantive discussions with the EPA WACOR related to products on which they work.

In addition to Task 0, *Work Plan, Progress Evaluations, and Monthly Project Reports*, there are six tasks described in this work assignment. The titles of each task are listed in the following table. A kickoff meeting will be held for each of the Tasks 1 through 6 to establish priorities and a milestone schedule for each task.

Task #	Task Title
0	Work Plan, Progress Evaluations, and Monthly Project Reports
1	Web-based Tools
2	Outreach and Training
3	Guidance and Tools
4	Implementation Projects
5	Source Water Contamination Preparedness
6	Social Media Monitoring

Task 0: Work Plan, Progress evaluations, and Monthly Progress Reports (LOE 1,312)

The contractor shall develop a work plan that describes how each task will be carried out. The work plan shall include a schedule, staffing plan, level of effort (LOE), and cost estimate for each task, the contractor's key assumptions on which staffing plan and budget are based, and qualifications of proposed staff. In addition, the work plan shall include the requirement that all electronic and information technology (EIT) and all EIT deliverables be Section 508 compliant in accordance with the policies referenced at http://www.epa.gov/accessibility/. If subcontractors are proposed, and are located outside the local metropolitan area of the contractor's office, the contractor shall include information on plans to manage work and contract costs.

In addition, the contractor shall verify that primary and secondary data used to complete indicated activities is of sufficient quality as described in the PQAPP discussed in Section III. The monthly progress report shall indicate, in a separate QA section, whether significant QA issues have been identified and how they are being resolved.

In each monthly progress report, the contractor shall, at the introduction to the discussion of this WA, discuss actual progress toward achieving the purpose of this work assignment, including problems encountered, issues that may need to be resolved, and anticipated timing for completing the goals of the WA. The contractor shall provide an overview of contract projects, striving to implement efficiencies in performance when complimentary requirements are issued. The contractor shall assure that duplication of effort relative to other ongoing work under this contract is not occurring.

In addition, the contractor shall submit a financial tracking spreadsheet populated with incurred and lagging costs for the current billing cycle. The EPA WACOR will provide a template for the financial tracking spreadsheet. The financial tracking spreadsheet shall be updated and submitted monthly along with the monthly progress and financial report. EPA does not anticipate the need for the contractor to travel in support of this task.

Task 0 Deliverables: Specific deliverables under this task are listed in the following table:

Sub-task	Deliverable	Due to EPA
0	WA-03-01 Work Plan including: schedule, staffing plan, LOE, cost estimates, key assumptions, and qualifications of proposed staff	August 21, 2018
0	Monthly progress and financial reports, including updates to the financial tracking spreadsheet. Summary of Quality Assurance Activities and Issues by Work Assignment.	Monthly, as specified in the contract

Task 1: Web-based Tools (LOE 590)

Task 1 supports the development of web-based tools that enhance the user experience with the WQSR Microsite and help users locate products in their areas of interest. The contractor shall support this task with staff having an in-depth understanding of effective website design and development of web-based tools and applications. Task 1 is divided into three sub-tasks:

- 1. Complete the SRS Capabilities Assessment Tool
- 2. Support Maintenance of the WQSR Microsite
- 3. Support Electronic SRS Tools

Each sub-task is described below, and additional details regarding each sub-task will be provided to the contractor through written technical direction. EPA does not anticipate the need for the contractor to travel in support of this task.

Sub-task 1.1: Complete the SRS Capabilities Assessment Tool

Under this sub-task, the contractor shall support EPA in completing the SRS Capabilities Assessment

Tool. A draft-final version of the *SRS Capabilities Assessment Tool* has been built, populated with content for all six components, undergone internal testing, and undergone user acceptance testing. To finalize the *SRS Capabilities Assessment Tool* and prepare it to be posted on the WQSR Microsite, the contractor shall:

- Revise the SRS Capabilities Assessment Tool to fix issues and bugs identified during user acceptance testing
- Modify the SRS Capabilities Assessment Tool to fix issues and bugs identified during the final product review by EPA
- Ensure that the tool is 508 compliant
- Provide support during the deployment of the SRS Capabilities Assessment Tool to EPA's
 National Computer Center or an alternate hosting facility or platform, as specified by the EPA
 WACOR

Sub-task 1.2: Support Maintenance of the WQSR Microsite

Under this sub-task, the contractor shall support EPA in maintaining the WQSR Microsite. Maintenance activities may include:

- Developing mock-ups and design options for new pages, or page revisions, for the WQSR Microsite.
- Updating documents posted on the WQSR Microsite, which may involve updating terminology for consistency with the *SRS Style Guide*, updating cover pages, updating links, and other minor edits as specified by the EPA WACOR

Sub-task 1.3: Support Electronic SRS Tools

Under this subtask, the contractor shall support EPA in maintaining electronic SRS tools, such as the SRS Capabilities Assessment Tool, SRS Information Management Requirements Development Tool (IMRT), the SRS Exercise Development Toolbox (SRS-EDT), the Customer Complaint Surveillance AET and TAT, EDDIES, and any other new tools developed or used during this period of performance. To maintain these tools, the contractor shall:

- Provide limited technical support to users of electronic SRS tools
- Track known and reported issues
- Update the tools to correct bugs identified by EPA personnel and other users

<u>Task 1 Deliverables</u>: Final deliverables under this task are listed in the following table. The first activity implemented under this task shall be a kickoff meeting to set priorities and develop a milestone schedule for Task 1.

Sub- task	Deliverable	Due to EPA
	Kickoff meeting and milestone schedule for Task 1	August 21, 2018
1.1	Final version of the SRS Capabilities Assessment Tool	As specified in Task 1 milestone schedule
1.2	Address maintenance requests for the WQSR Microsite	Within 4 working days of the request

Sub- task	Deliverable	Due to EPA
1.3	Address issues with electronic SRS tools (e.g., IMRT and EDT)	Within 2 working days of the request

Task 2: Outreach and Training (LOE 910)

Task 2 supports outreach and training activities under the SRS Program. Under Task 2, the contractor shall develop high quality, finished products in a variety of media, from simple factsheets and flyers to training modules and videos. Any content that is needed to create outreach and training materials will be developed under this task or provided to the contractor by EPA. In general, this content will be derived from existing materials (e.g., guidance documents, tools, presentations, etc.). The contractor shall also provide logistical support and facilitation of live webinars and in-person training events.

This task requires staff with previous experience in developing training modules and experience or training in communication and marketing to a variety of technical and non-technical audiences. The contractor shall arrange for professional narrators to record scripts for training modules, if required. The contractor shall have access to free stock images or fee-based images, if required. The contractor shall be able to print color posters up to 36 inches wide. The contractor shall ensure that all products developed under this task are consistent with standards in the *SRS Product Style Guide*, compliant with applicable EPA multi-media standards, and compliant with 508 standards. The contractor shall stay apprised of the Water Security Division's (WSD's) comprehensive communication and outreach efforts to ensure that products developed under this task maintain the look and feel of other WSD products.

This task is divided into four sub-tasks:

- 1. Produce Factsheets, Flyers, and Posters
- 2. Produce Training Modules
- 3. Provide Logistical and Facilitation Support for Workshops
- 4. Provide Logistical and Facilitation Support for Webinars

Each sub-task is described below, and additional details regarding each sub-task will be provided to the contractor through written technical direction from the EPA WACOR. Contractor or subject matter expert travel may be required to support this task. For estimating purposes, assume two trips lasting three days (two nights) for six people. For estimating purposes, assume that the destination for each trip is a medium-large sized city in the Midwest.

Sub-task 2.1: Produce Factsheets, Flyers, and Posters

Under this sub-task, the contractor shall develop high-quality outreach materials, such as factsheets, flyers, and posters. Content for outreach materials shall be prepared by contractor personnel with appropriate subject matter expertise. This content will be reviewed and edited by the EPA WACOR. Once the content has been finalized and approved by the EPA WACOR, the contractor shall develop the finished product for final review and approval. The format of each product will be specified through technical direction from the EPA WACOR, but for estimating purposes, assume that up to six flyers or factsheets and one 36-inch poster will be developed.

Sub-task 2.2: Produce Training Modules

Under this sub-task, the contractor shall develop high-quality training modules using PowerPoint slides, or "screen-capture" video from applications or websites. Once the content has been finalized and approved by the EPA WACOR, the contractor shall develop a script and animation instructions for each slide or sequence. The script shall be recorded by a professional narrator, and matched with the slide animation or screen capture video. The final product must be converted to "mp4" format, and include closed captioning files, before it can be posted to the EPA YouTube Channel. Topics for pre-recorded webinars will be specified in technical direction and may include tutorials for using SRS tools and self-guided learning on the principles of SRS design. For estimating purposes, assume up to two training modules (i.e., using either PowerPoint slides or "screen-capture" video) shall be developed.

Sub-task 2.3: Provide Logistical and Facilitation Support for Workshops

Under this sub-task, the contractor shall provide logistical and facilitation support for in-person workshops. The contractor shall participate in planning activities and develop workshop materials such as agendas, hand-outs, name tags, and sign-in sheets. The contractor shall perform workshop facilitation, which may include signing in participants, introducing speakers, facilitating discussion, taking notes, and managing time. The contractor shall participate in planning meetings prior to the workshop, work with EPA to develop an agenda, and document workshop proceedings in a summary report. The contractor may be required to coordinate workshop registration using EventBrite or other types of registration software. The contractor may be required to arrange for subject matter experts to travel to the workshop. The contractor may also be required to support development of PowerPoint presentations, in close collaboration with EPA personnel. EPA will be responsible for identifying and securing no-cost meeting space. For estimating purposes, assume up to two in-person workshops.

Sub-task 2.4: Provide Logistical and Facilitation Support for Live Webinars

Under this sub-task, the contractor shall provide logistical and facilitation support for delivery of live webinars. The contractor will be required to use Adobe Connect or other webinar software. The contractor shall participate in planning meetings, coordinate webinar registration, introduce speakers, facilitate Q&A time, and provide participants with documentation for contact hour credit (if requested). The contractor may also be required to support development PowerPoint presentations, in close collaboration with EPA personnel. The contractor shall also compile summary information from the webinar, such as attendee lists, answers to polling questions, and Q&A. For estimating purposes, assume up to 12 live webinar events.

<u>Task 2 Deliverables</u>: Final deliverables under this task are listed in the following table. The first activity implemented under this task shall be a kickoff meeting to set priorities and develop a milestone schedule for Task 2.

Sub- task	Deliverable	Due to EPA
	Kickoff meeting and milestone schedule for Task 2	August 21, 2018
2.1	Final version of factsheet, flyer, or poster	As specified in Task 2 milestone schedule

Sub- task	Deliverable	Due to EPA
2.2	Final version of training module	As specified in Task 2 milestone schedule
2.3	Final set of materials for workshops	As specified in Task 2 milestone schedule
2.3	Final workshop summary report	As specified in Task 2 milestone schedule
2.4	Final version of webinar presentation materials	As specified in Task 2 milestone schedule
2.4	Final version of brief summary report from each webinar event	As specified in Task 2 milestone schedule

Task 3: Guidance and Data Analysis (LOE 1,970)

Task 3 supports the development of guidance and data analysis activities under the SRS Program. This task requires support from contractor staff with experience developing high quality documents and conducting sophisticated data analysis projects using off-the-shelf data analysis software (e.g., Microsoft Excel). Furthermore, this task will require occasional support from subject matter experts for any of the SRS components. These subject matter experts may be required to provide technical advice, limited support, and review during guidance development or data analysis activities.

The contractor shall ensure that all products developed under this task are consistent with standards in the *SRS Product Style Guide*, compliant with applicable EPA standards, and compliant with 508 standards.

This task is divided into two sub-tasks:

- 1. Support Development of Guidance
- 2. Support Development of Tools

Each sub-task is described below, and additional details regarding each sub-task will be provided to the contractor through written technical direction from the EPA WACOR. EPA does not anticipate the need for contractor travel in support of this task. Work on some tools under sub-task 3.2 will require the collection and use of primary or secondary data and thus will require a PQAPP.

Sub-task 3.1: Support Development of Guidance

Under this sub-task, the contractor shall support EPA in development, review, finalization, and publication of guidance documents. While the guidance development effort for the SRS program has been substantially completed, there are four documents that may not be published by July 31, 2018,

which may require editorial and 508 compliance reviews prior to publication. These four documents are: Guidance for Building Lab Capabilities to Respond to Drinking Water Contamination; Selecting Online Water Quality Monitoring Sensor Technologies for Source Water and Distribution System Monitoring; Guidance for Responding to Distribution System Contamination; and Template for Developing a Distribution System Contamination Response Procedure.

Furthermore, work will begin on two additional products. The first is an Alert Investigation Procedure Guide and Template for Distribution System Intrusion Events Detected using Advanced Metering Infrastructure. The second is Guidance for Flushing Premise Plumbing Systems following a Contamination Incident. EPA will take the lead in gathering input from subject matter experts to inform the Premise Plumbing Flushing document. Specific activities that the contractor shall perform to support the development of these products include:

- Assist EPA in the development of an initial draft of the product
- Revise the product based on EPA comments
- Revise the guidance product based on peer review comments
- Revise the guidance product to address comments generated during final review
- Prepare a 508 compliant, PDF version of the final product for publication and posting on the WQSR Microsite

Sub-task 3.2: Support Data Analysis

Under this sub-task, the contractor shall support EPA in that analysis of data to help drinking water utilities, especially small utilities, develop SRS capabilities. This sub-task will include additional validation, and testing of *Distribution System Contamination eValuation and Response* (DSCVR). It will also include spatial-temporal visualization of customer water quality complaints to help utilities establish alert thresholds, investigate alerts, improve customer service, and possibly assess infrastructure degradation. Furthermore, the contractor shall support data analysis of drinking water utility data (e.g., online water quality data and customer water quality complaints). Specific activities that the contractor shall perform under this sub-task include:

- Work with EPA and potential end-users to develop requirements for data analysis activities
- Develop data analysis aids (e.g., spreadsheets)
- Utilize EPA's GeoPlatform to support data analysis and visualization
- Test and validate data analysis methods
- Coordinate data analysis activities with partner utilities and incorporate utility feedback into the data analysis plan and supporting aids

<u>Task 3 Deliverables</u>: Final deliverables under this task are listed in the following table. The first activity implemented under this task shall be a kickoff meeting to set priorities and develop a milestone schedule for Task 3.

Sub- task	Deliverable	Due to EPA
	Kickoff meeting and milestone schedule for Task 3	August 21, 2018
3.1	Final version of guidance product	As specified in Task 3 milestone schedule

Sub- task	Deliverable	Due to EPA
3.2	Final version of data analysis outputs	As specified in Task 3 milestone schedule

Task 4: Implementation Projects (LOE 1,410)

Task 4 supports the implementation of projects to develop specific SRS capabilities at specific utilities that agree to partner with EPA. Under Task 4, the contractor shall support EPA by providing direct technical support to implementation of these projects. The potential scope of the projects includes the six traditional SRS components, online water quality monitoring for source waters, source water protection, advanced metering infrastructure, and social media monitoring. These projects should reflect advancements in the water sector and may include aspects of intelligent water systems, the internet of things, and data analytics.

The specific scope of each implementation project will be tailored to the requirements of each participating utility. EPA anticipates that no more than four implementation projects will be initiated during this period of performance. Specific activities that the contractor shall perform under this task include:

- Provide technical consultation to EPA and drinking water utility staff on topics related to the SRS components and their design elements
- Review designs, plans, and procedures related to surveillance and response components
- Analyze data related to design and operation of the SRS components, such as online water quality data, customer water quality complaints, public health surveillance data, laboratory analysis results, social media, and related data needed for proper interpretation of monitoring and surveillance data
- Assist in the development of investigation and response procedures
- Plan, develop, and facilitate workshops and exercises

The contractor shall also assist EPA in the installation, testing, and troubleshooting of equipment under OWQM and ESM implementation projects. OWQM implementation projects may require installation of up to four fabricated monitoring stations containing instrumentation to monitor for multiple water quality parameters. These stations may be designed for fixed locations or portable, and will be determined by the EPA WACOR once project specifications have been developed. For estimating purposes, assume that two stations will be designed for fixed locations and two stations will be portable. Also for estimating purposes, assume that the parameters monitored will include chlorine residual, pH, temperature, conductivity, and UV absorbance. ESM implementation projects may require installation of low-cost, off-the-shelf intrusion detection and video monitoring equipment suitable for deployment at small utilities. For estimating purposes, assume that security equipment will be installed at three utility facilities, and will include one intrusion detection device and one low-cost security camera at each facility.

Contractor travel may be required to support this task. For estimating purposes, assume six trips lasting three days (two nights), and requiring participation from two contractor personnel. For estimating

purposes, assume that the destination for each trip is a medium-large sized city in the Midwest. Work on this task may require the collection and use of primary or secondary data and thus may require a PQAPP.

<u>Task 4 Deliverables</u>: Final deliverables under this task are listed in the following table. The first activity implemented under this task shall be a kickoff meeting to set priorities and develop a milestone schedule for Task 4.

Sub- task	Deliverable	Due to EPA
	Kickoff meeting and milestone schedule for Task 4	August 21, 2018
	Technical consultations	As specified in Task 4 milestone schedule
	Review of design documents, plans, or procedures	As specified in Task 4 milestone schedule
	Results of data analysis	As specified in Task 4 milestone schedule
	Final versions of investigation and response procedures	As specified in Task 4 milestone schedule
	Documentation for workshops and exercises	As specified in Task 4 milestone schedule
	Equipment installation	As specified in Task 4 milestone schedule

Task 5: Source Water Contamination Preparedness (LOE 120)

Task 5 supports efforts to improve the ability of drinking water utilities to prepare for source water contamination incidents. Under Task 5, the contractor shall support EPA in demonstrating approaches for conducting a source water threat inventory, conducting a risk assessment, and developing mitigation strategies. The contractor shall also support efforts to remove barriers to accessing data and information necessary to inventory, characterize, and mitigate source water contamination threats.

This task requires support from contractor staff with experience in analyzing a variety of disparate data sources to perform source water inventories and risk assessments. It also requires staff familiar with strategies to mitigate the risk of source water contamination incidents, particularly those resulting from spills.

This task is divided into three sub-tasks:

- 1. Ohio River Source Water Protection Demonstration Project
- 2. Multi-state Source Water Threat Inventory and Risk Assessment
- 3. Assess Barriers to Data Access

Each sub-task is described below, and additional details regarding each sub-task will be provided to the contractor through written technical direction. EPA does not anticipate the need for the contractor to travel in support of this task.

Sub-task 5.1: Ohio River Source Water Protection Demonstration Project

Under this sub-task, the contractor shall support EPA in conducting a detailed source water threat inventory, characterization, and risk assessment for a specified segment of the Ohio River and major tributaries. The contractor shall also support EPA in the development of mitigation and response measures. This work shall utilize the WaterSuite software and services, building on the work completed under WA-02-01. This work shall be completed in close partnership with EPA, Greater Cincinnati Water Works, Northern Kentucky Water District, ORSANCO, and other utilities along the Ohio River in the study area. Specific activities that the contractor shall perform under this sub-task include:

- Extend the source water threat inventory to 25 miles above the intake for the drinking water treatment plant for Portsmouth, OH
- Assess data gaps in the inventory, and fill those gaps to the extent possible within the resources available to the project
- Conduct a risk assessment and prioritization of source water threats in the study area, considering the latest research in this area, such as an ongoing Water Research Foundation study, and using river spill models to calculate an acute spill risk score
- Using data from the study area, compare a "partial inventory" using only data from federal data sources against the "full inventory" developed under this sub-task, and document key findings in the summary report developed under sub-task 5.3
- Apply the results of the inventory and risk assessment to the development of mitigation strategies that address priority threats
- Develop a project report that documents key information about the nature and types of source water threats identified, the relative value of various data sources for performing the source water inventory, the methodology and results of the risk assessment, a summary of mitigation strategies identified, and lessons learned from the project that would be useful to the water sector

Sub-task 5.2: Multi-state Source Water Threat Inventory and Risk Assessment

Under this sub-task, the contractor shall support the EPA in conducting a multi-state source water threat inventory using data that has already been captured in WaterSuite to gain a better perspective of common threats to drinking water sources. The results of this effort may inform other EPA programs such as Toxic Substances Control Act and Clean Water Act. Specific activities that the contractor shall perform under this sub-task include:

- Identify a study area for which WaterSuite has robust data and which represents a range of industrialized river reaches
- Conduct a risk assessment and prioritization of source water threats in the study area, considering the latest research in this area, such as an ongoing Water Research Foundation study
- Identify contaminants that rank high in the risk assessment and contaminants that are poorly characterized

• Develop a brief summary report that documents key information about the nature and types of source water threats identified, the methodology and results of the risk assessment, a prioritized list of contaminants based on the results of risk assessment, a list of the top priority contaminants for which there are significant data gaps, and recommendations

Sub-task 5.3: Assess Barriers to Data Access

Under this sub-task, the contractor shall support the EPA in conducting an assessment of barriers to access and interpretation of data critical to performing a source water threat inventory and risk assessment, using WaterSuite as a benchmark. Under this sub-task, the contractor shall perform analyses and develop a report that:

- Identifies the most important data sources for conducting a source water threat inventory and risk assessment
- Presents the results from the comparison of a "partial inventory" using only data from federal data sources against the "full inventory" developed under sub-task 5.1
- Describes challenges related to data access, data format, data quality, data completeness, and other factors that interfere with conducting a comprehensive and robust source water threat inventory and risk assessment
- Recommends potential solutions to these challenges, including identification of the party best suited to implementing those solutions, such as facility owners, LEPCs, state environmental protection agencies, state drinking water primacy agencies, EPA, etc.

<u>Task 5 Deliverables</u>: Final deliverables under this task are listed in the following table. The first activity implemented under this task shall be a kickoff meeting to set priorities and develop a milestone schedule for Task 5.

Sub- task	Deliverable	Due to EPA
	Kickoff meeting and milestone schedule for Task 3	August 21, 2018
5.1	Results of Ohio River source water threat inventory and gap analysis	As specified in Task 5 milestone schedule
5.1	Results of Ohio River source water risk assessment and prioritization	As specified in Task 5 milestone schedule
5.1	Results of comparison between "partial inventory" and "full inventory"	As specified in Task 5 milestone schedule
5.1	Summary report for the Ohio River Source Water Protection Demonstration project	As specified in Task 5 milestone schedule
5.2	Results of the source water inventory and risk assessment for the multi-state region	As specified in Task 5 milestone schedule

Sub- task	Deliverable	Due to EPA
5.2	Summary report for the Multi-state Source Water Threat Inventory and Risk Assessment	As specified in Task 5 milestone schedule
5.3	Summary report for the Assessment of Barriers to Data Access	As specified in Task 5 milestone schedule

Task 6: Social Media Monitoring (LOE 700)

Task 6 supports the application of social media monitoring to the goals and objectives of an SRS. Under Task 6, the contractor shall support EPA in expanding the investigation of Social Media Monitoring as a tool to monitor for drinking water contamination incidents, public perceptions of water quality and the utility, and customer perceptions and actions during a drinking water emergency. Specifically, the contractor shall assess the viability of tailoring social media monitoring to support SRS surveillance and response functions. Based on this assessment, the contractor shall develop best practices for leveraging social media monitoring for drinking water utility applications. The contractor will complete interviews of up to nine drinking water utilities currently using social media, which were initiated under Task 5 of WA-02-01. The contractor shall also interview up to nine public health entities currently using social media monitoring to investigate public health issues. The contractor shall support EPA in the demonstration of Social Media Monitoring as follows:

- Complete and document interviews of utility and public health professionals using social media monitoring
- Develop case studies that demonstrate the role of social media in detection of contamination incidents (e.g., through customer complaints or public health surveillance) and response to actual contamination incidents
- Develop draft guidance for implementing social media monitoring for prospective surveillance and incident response, which includes checklists, process flows, and customizable templates (note that this guidance will not be finalized or published during the period of performance for this work assignment)

EPA does not anticipate the need for the contractor to travel in support of this task.

<u>Task 6 Deliverables</u>: Final deliverables under this task are listed in the following table. The first activity implemented under this task shall be a kickoff meeting to set priorities and develop a milestone schedule for Task 6.

Sub- task	Deliverable	Due to EPA
	Kickoff meeting and milestone schedule for Task 6	August 21, 2018
	Case studies and interview summaries for drinking water utilities and public health agencies using social media monitoring for prospective surveillance and incident response	As specified in Task 6 milestone schedule

Sub- task	Deliverable	Due to EPA
	Draft guidance for the application of social media monitoring for prospective surveillance and incident response	As specified in Task 6 milestone
		schedule

V. SCHEDULE/DELIVERABLES

Detailed listings of deliverables are included for each task in Section IV.

VI. REPORTING REQUIREMENTS

- 1. Monthly Progress Reports (including a progress evaluation discussion)
- 2. Financial Reports (including the populated financial tracking spreadsheet)
- 3. Project Specific PQAPP

VII. GREEN MEETINGS AND CONFERENCES

The contractor shall follow the provision of EPA prescription 1523.703-1, *Acquisition of environmentally preferable meeting and conference services (May 2007)*, for the use of off-site commercial facilities for an EPA event, whether the event is a meeting, conference, training session, or other purpose. Environmental preferability is defined at FAR 2.101, and shall be used when soliciting quotes or offers for meeting/conference services on behalf of the Agency.

VIII. CONFERENCES AND WORKSHOPS

The tasks under this work assignment do not require the acquisition of "off-site" facilities for conferences and meetings as defined in the IPN 12-05. AND the events associated with this work assignment are not covered by EPA Order 1900.3 and do not require EPA Form 5170.

The contractor shall immediately alert the WACOR to any anticipated event under the work assignment which may incur an estimated cost to EPA of \$20,000 or more, specific to that event, meeting, training, etc. Those costs would include travel of both prime and consultant personnel, planning and facilitation costs, AV and rental of venue costs, etc. The EPA WACOR will then prepare for approval the internal paperwork for the event and will advise the contractor when appropriate signatures have been obtained. At that point, effort can proceed for the event. If the event is being sponsored by another EPA organization, the organization providing the planning is responsible for the approval.

Any event which meets the definition of a "conference," with total net expenditures greater than \$20,000, is required to submit EPA Electronic Form 5170 and Form 5170-A (with cost estimates/actuals). In the case the workflow system is down and CORs require emergency approval, they can submit EPA Form 5170 (PDF) (2pp, 93K) (with cost estimates) to conference@epa.gov.

IX. SOFTWARE APPLICATION AND ACCESSIBILITY (SECTION 508 REHABILITATION ACT AND AMENDMENTS)

Software Application files, if delivered to the Government, shall conform to the requirements relating to accessibility as detailed to the 1998 amendments to the Rehabilitation Act, particularly, but not limited to, § 1194.21 Software applications and operating systems and § 1194.22 Web-based intranet and internet information and applications. See: http://www.section508.gov/

Preferred text format: MS Word, 8.0 or higher (Office 2007 or higher)

Preferred presentation format: Power Point, Office 2007 or higher Each graphic is an individual GIF file

Preferred portable format: Adobe Acrobat, version 6.0

The WACOR shall identify which of delivered products will require 508 compliance.

QUALITY ASSURANCE SURVEILLANCE PLAN for WSD's Mission Support

Quality Assurance Surveillance Plan

The requirements contained in this WA are considered performance-based, focusing on the Agency's desired results and outcomes. The contractor shall be responsible for determining the most effective means by which these requirements will be fulfilled. In order to fulfill the requirements, the contractor shall design innovative processes and systems that can deliver the required services in a manner that will best meet the Agency's performance objectives. This performance-based requirement represents a challenge to the contractor to develop and apply innovative and efficient approaches for achieving results and meeting or exceeding the performance objectives, measures, and standards described in Attachment 4 of the contract. The Contractor's performance will be reflected in the positive or negative evaluation offered by the Agency in the Contractor Performance Evaluation (CPE) which is evaluated annually (per the "Contractor Performance Evaluation" clause in the contract). The WACOR shall submit a complete annual review of the areas outlined in the Quality Assurance Surveillance Plan (QASP), included in the contract, which will then be utilized by the Contract Level Contracting Officer's Representative (CLCOR) in preparing the overall evaluations submitted annually in response to the CPE requirements in the contract.

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Project Office	cer Name	e Nancy F	arrotta					Br	anch/Mail C	ode:					
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WORK ASSIGNMENT PERFORMANCE WORK STATEMENT (PWS)

Title: Risk Assessment and Consequence Analysis Tool Development, Improvement, Outreach / Homeland Security Coordination Activities / Cybersecurity

Period of Performance: August 1, 2018 to July 31, 2019

PWS Sections: 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.10, 2.14, 2.18

Contract No. EP-C-15-012

Work Assignment: WA-03-03

LOE: 3400 hours

Work Assignment Contract Officer Representative (WACOR):

Name: Daniel C. Schmelling
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Division: Water Security Division

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Street Address: 1200 Pennsylvania Avenue, NW

City, State, Zip: Washington, DC 20460

Alt WACOR: Name: John A. DeGour

Branch: Threats, Analysis, Prevention and Preparedness Branch

Division: Water Security Division

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Task Managers

Task 1

Name: John A. DeGour

Branch: Threats, Analysis, Prevention and Preparedness Branch

Division: Water Security Division

Office: Office of Ground Water and Drinking Water

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Tasks 0, 2,3,4

Name: Daniel C. Schmelling
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Street Address: 1200 Pennsylvania Avenue, NW

City, State, Zip: Washington, DC 20460

I. PURPOSE:

The purpose of this work assignment is to reduce risk and increase resilience for all hazards within the Water Sector through the following:

- Enabling the sector to better and more easily assess risks to all hazards and evaluate the cost-effectiveness of measures to reduce risks;
- Conducting risk assessment and consequence analysis tool outreach, which will increase knowledge in the water sector of ways to assess risks and consequences;
- Supporting coordination of activities between the EPA, Department of Homeland Security, and other public and private water sector stakeholders; and
- Promoting the adoption of cybersecurity best practices.

To achieve this purpose, the contractor shall be expected to do the following:

- Develop and improve Vulnerability Self-Assessment Tool (VSAT) a water sector risk assessment tool;
- Conduct risk assessment and consequence analysis tool training and outreach;
- Support Homeland Security coordination activities; and
- Develop materials that promote water sector cybersecurity.

The outputs of this work assignment are intended for water and wastewater system owners and operators, as well as federal, state, local, tribal, and territorial officials that assist water sector facilities with participating in Water Sector infrastructure security and resilience activities.

This work assignment supports the mission of the Water Security Division (WSD) as described in the Water Security Strategy framework, which relates resources, activities, outputs, audience, short- and long- term outcomes to the WSD pillars of Prevention, Detection, Response, and Recovery. Additionally, this work assignment contributes to the commitments made in EPA's *Strategic Plan: 2011 to 2015* and EPA's *Homeland Security Strategy (2004)*. Under EPA's *Strategic Plan*, reference is made to Goal 2 (Clean and Safe Water), Objective 2.1 (Protecting Human Health), Sub-objective 2.1.1 (Water Safe to Drink), and to the Cross-Goal on homeland security. Under EPA's *Homeland Security Strategy*, reference is made to Objective 1 (Critical Infrastructure Protection).

In support of these requirements, this contract supports the nation's drinking and wastewater infrastructure, collectively known as the Water Sector, in being informed, coordinated, and prepared to prevent, detect, respond to, and recover from terrorist attack and other intentional acts, natural disasters, and other hazards (referred to as the "all hazards' approach), which may also occur, including the needs and challenges posed by natural disasters, catastrophic events, adaptation and impacts of climate change, floods, earthquakes, pandemic illness, and any other events which impact the safety and availability of our water supply.

In pursuit of these efforts, the contractor may be tasked with preparing a correlation summary comparing the results under this work assignment to the components of the Water Security Strategy framework.

II. BACKGROUND:

Presidential Preparedness Directives (PPD) 8, 21, and 41, as well as Executive Orders 13800 and 13686, assign responsibilities to the EPA to strengthen and maintain the security and resilience of the Nations critical infrastructure, both physical and cyber. PPD - 21 designates the EPA as the lead agency or Sector-Specific Agency (SSA) for the Nation's Water Sector. One of many outputs related to PPD - 21 was the development of the National Infrastructure Protection Plan (NIPP) and the accompanying Sector-Specific Plans (SSPs). These plans/strategies have logically driven critical infrastructure protection initiatives towards an all-hazards (man-made and natural disasters) approach.

EPA works with the Water Sector, Federal, State, tribal and local governments, and all stakeholders to:

- 1. Protect the Water Sector's infrastructure from all hazards and to enhance resilience capabilities.
- 2. Conduct or facilitate "all-hazards" risk assessment and consequence analysis;
- 3. Encourage risk management strategies to reduce vulnerabilities and mitigate public health and economic impacts (consequence); and
- 4. Promote communication, collaboration, and information sharing and analysis.

All-hazards related critical infrastructure protection activities are an extension of EPA's long-term mission to protect human health and the environment. Accordingly, EPA and its Water Sector security partners continue to work together and are implementing a strategy to identify, prioritize, and coordinate the protection of critical Water Sector infrastructure. This strategy assists in improving Water Sector awareness, preparedness and security posture, as well as increasing resilience - in a consistent, sustainable, effective, and measurable manner.

This work assignment will support the ongoing critical infrastructure protection coordination activities/initiatives that the Agency has initiated in collaboration with the Department of Homeland Security (DHS) and water sector partners. It includes development, outreach, and training on risk assessment and analysis tools, specifically the Vulnerability Self-Assessment Tool (VSAT) and Water Health and Economic Analysis Tool (WHEAT), and efforts to promote the adoption of cybersecurity best practices in the water sector.

III. QA REQUIREMENTS:

The tasks in this WA do not require environmental measurements. Consistent with the Agency's Quality Assurance (QA) requirements, the contractor does not need to supplement the Contract Level Quality Management Plan (QMP) or prepare a Project Specific Quality Assurance project Plan (PQAPP).

IV. DETAILED TASK DESCRIPTION:

All direction under this WA will be provided as written technical direction from the WACOR, Alternate WACOR, or Task Manager (TM), as appropriate. If provided first as verbal technical direction to the contractor, it will be confirmed in writing within 5 calendar days, with a copy to the CL COR and the Contracting Officer (CO), and is subject to the limitations of the technical direction contract clause. Each initial deliverable shall be provided to the EPA WACOR in draft form for review and comment. The contractor shall incorporate WACOR/TM review comments into revisions of the drafts. All drafts and final reports shall be approved by the WACOR.

The contractor shall perform the following tasks:

Task 0: Work Plan (WP), Progress Evaluations, and Monthly Progress Reports Task Manager: Daniel C. Schmelling

The contractor shall develop a work plan that describes how each task will be carried out. The work plan shall include a schedule, staffing plan, level of effort (LOE), and cost estimate for each task, the contractor's key assumptions on which staffing plan and budget are based, and qualifications of proposed staff. If a subcontractor(s) is proposed and subcontractors are outside the local metropolitan area, the contractor shall include information on plans to manage work and contract costs. In addition, the work plan shall specify that a Supplemental Project Specific Quality Assurance Project Plan (SQAPP) appending the Contract QAPP or a PQAPP is not required. This task also includes monthly progress and financial reports. Monthly financial reports must include a table with the invoice LOE and cost amount broken out by the tasks in this WA.

The contractor shall develop a WP that describes how each task will be carried out. The work plan shall include a schedule, staffing plan, level of effort (LOE), and cost estimate for each task, the contractor's key assumptions on which staffing plan and budget are based, and qualifications of proposed staff. In addition, the work plan shall include the requirement that all electronic and information technology (EIT) and all EIT deliverables be Section 508 compliant in accordance with the policies referenced at http://www.epa.gov/accessibility/. If a subcontractor(s) is proposed and subcontractors are outside the local metropolitan area, the contractor shall include information on plans to manage work and contract costs.

In each monthly progress report, the contractor shall, at the introduction to the discussion of this WA, discuss actual progress toward achieving the purpose of this work assignment, including problems encountered, issues that may need to be resolved, and anticipated timing for completing the goals of the WA. The contractor shall provide an overview of contract projects, striving to implement efficiencies in performance when complimentary requirements are issued. The contractor shall assure that duplication of effort relative to other ongoing WA under this contract is not occurring.

The contractor shall also include any requested task level metrics to measure progress toward established goals.

<u>Deliverables:</u> Listed in Section V of this performance work statement.

Task 1: Water Sector Homeland Security meeting/document support Task Manager: John A. DeGour

The purpose of this task is to provide Water Sector meeting and document support for Homeland

Security related and resilience activities, for example CIPAC meetings. As directed by the EPA Task Manager through written technical direction, the contractor shall provide the following:

• Logistical, facilitation and administrative meeting support to include, but not limited to, facilitating and supporting meeting planning activities, delivery of meeting sessions, development of minutes and action items, and summary evaluation and report-out. The contractor shall arrange for facilities, in accordance with Agency requirements (please see Section VIII below), suggest locations, and make necessary arrangements for meetings or conferences as requested by written technical direction from the WACOR. The contractor shall identify potential speakers and participants to attend EPA sponsored events, issue invitations, and conduct pre-meeting and on-site registration activities. The contractor shall develop and assemble agendas, supplemental materials (e.g., handouts, presentations, participant list), and other preparatory activities as needed. The contractor shall facilitate sessions and provide support to invited presenters and subject matter experts as required. Work on task activities shall begin upon receipt of written technical direction from the EPA WACOR. For cost estimating purposes the contractor shall anticipate up to two meetings in the local area.

The contractor shall adhere to Agency requirements for reserving meeting space. Any speakers or experts identified for travel reimbursement must have a clear role in the meeting/workshop and must have consultant agreements in place.

All appropriate clearances and approvals required by Agency policy in support of any and all conference related activities and expenses, including support of meetings, conferences, training events, award ceremonies and receptions, shall be obtained by the WACOR or EPA CL COR as needed and provided to the Contracting Officer. Work under conference-related activities and expenses shall not occur until this approval is obtained and provided by the WACOR, CL COR or CO.

- Support the writing, review, and/or dissemination of documents created in relation to Homeland Security coordination activities and other related project documents as requested in written technical direction by the EPA WACOR.
- Develop information and outreach materials for the Water Sector as requested in written technical direction by the EPA WACOR. This may include, but not be limited to, the development of fact sheets, presentations, exercises, and briefings. It is anticipated for cost estimating purposes up to three documents in support of this task.

Deliverables: Listed in Section V of this performance work statement.

Task 2: Provide Technical Support for VSAT Web 1.0 Task Manager: Daniel C. Schmelling

In the last period of performance, the contractor completed the development and deployment of VSAT Web 1.0, which is now hosted by an EPA National Computer Center (NCC) server. Under this task, the contractor shall provide ongoing technical support to maintain the integrity and availability of VSAT Web 1.0 for water sector stakeholders. This technical support may include updates to databases, fixing software errors (e.g., "bugs"), providing technical support to users by phone or email, and delivering information about the software required by EPA.

Deliverables: Listed in Section V of this performance work statement.

Deliverables must be provided in draft form for EPA review and approval prior to being finalized. Multiple drafts may be required prior to EPA approval.

Task 3: Design VSAT Web Version 2.0 Task Manager: Daniel C. Schmelling

As directed by the EPA Task Manager through written technical direction, the contractor shall initiate the design of VSAT Web Version 2.0. A primary objective of this task will be to make VSAT Web compliant with a revised version of *AWWA J100-10 Risk and Resilience Management of Water and Wastewater Systems* (hereinafter, J100 Standard). At this time, an AWWA committee is revising the J100 Standard, with the revisions expected to be finalized in 2019 (date TBD). Work on this task will proceed as the revised J100 Standard is finalized.

The design of VSAT Web 2.0 shall include the following enhancements:

- (1) <u>Compliance with the revised J100 Standard</u>. Because the changes being made to the J100 Standard are not yet final, a complete list of the modifications necessary for VSAT Web to be compliant cannot be provided at this time. In general, EPA expects that the underlying risk analysis methodology of the J100 standard will not be changed. The revised standard is expected to include a new Utility Resilience Index, additional information on natural hazards, and a new method for calculating the likelihood of man-made threats.
 - As the revised J100 Standard is finalized, EPA shall review it and determine the changes required to VSAT Web to be compliant. The contractor shall then provide EPA with a list of proposed changes to VSAT Web and shall design those changes approved by the EPA Task Manager.
- (2) <u>A man-made threat likelihood calculator</u>. VSAT requires users to estimate the likelihood of man-made threats but provides no tools to assist users with this estimate. The contractor shall design a calculator that operates within VSAT Web and assists users with determining the likelihood of man-made threats. This calculator is expected to be based on a methodology in the revised J100 Standard or on an alternate methodology approved by the EPA Task Manager.

(3) <u>Additional enhancements as directed by EPA</u>. The contractor shall design additional enhancements to VSAT Web as directed by the EPA Task Manager through written technical direction. EPA does not anticipate that these enhancements will entail significant modifications. Rather, they will comprise improvements based on stakeholder feedback from using the current version of the application.

EPA does not anticipate that any travel or participation in in-person stakeholder meetings will be required from the contractor for this task. The EPA Task Manager may organize a stakeholder review of VSAT Web. However, this review, if it occurs, would be conducted on-line and not in-person.

<u>Deliverables</u>: Listed in Section V of this performance work statement.

Deliverables must be provided in draft form for EPA review and approval prior to being finalized. Multiple drafts may be required prior to EPA approval.

Task 4: Develop Water Sector Cybersecurity Materials Task Manager: Daniel C. Schmelling

The purpose of this task is to develop brief materials that support EPA's efforts to promote the adoption of cybersecurity best practices in the water sector. As directed by the EPA Task Manager through written technical direction, the contractor shall develop the following:

- (1) Brief assessment, planning, and other documents developed in response to requests by the National Security Council, GAO, or other government entities or infrastructure sector groups. For estimating purposes, assume that up to 2 documents may be required.
- (2) Short, targeted guidance documents for underserved segments of the water sector, such as small systems and technical assistance providers. For estimating purposes, assume that up to 3 documents may be required. Document length is not expected to exceed a few pages.
- (3) Web page design and technical assistance as needed to support hosting key water sector cybersecurity materials on a public web site.
- (4) Outreach materials that promote water sector cybersecurity. For estimating purposes, assume that up to 3 documents may be required.

EPA does not anticipate that any travel or participation in in-person stakeholder meetings will be required from the contractor for this task.

<u>Deliverables</u>: Listed in Section V of this performance work statement.

Deliverables must be provided in draft form for EPA review and approval prior to being finalized. Multiple drafts may be required prior to EPA approval.

V. SCHEDULE/DELIVERABLES

The schedule of deliverables is included within each specific task.

SCHEDULE/DELIVERABLES

Task 0: Work	k Plan and Monthly Progress Reports									
Objective	Deliverables	Date								
0	 Work plan Project Specific Quality Assurance Project Plan monthly progress and financial reports 	In accordance with contract requirements								
Task 1: Water Sector Homeland Security meeting/document support										
1	 Meeting Support Writing/document support Outreach materials 	TBD by written technical direction from the EPA WACOR								
Task 2: Provi	ide Technical Support for VSAT Web 1.0									
Objective	Deliverables	Date								
1	 Written (e.g., email) and verbal (phone) technical assistance in the use of WHEAT and VSAT provided to stakeholders or EPA, as directed by EPA, in response to stakeholder requests for help. 	TBD by written technical direction								
2	Updates to the VSAT Web database and correction of software errors as required.	TBD by written technical direction								
3	Delivering technical information about VSAT Web as required.	TBD by written technical direction								
Task 3: Desig	gn VSAT Web Version 2.0									
Objective	Deliverables	Date								

4		103
All	 Requirements documentation, screen mock-ups, and other documents as directed by the EPA Task Manager through written technical direction to support the design process. Incorporation of enhancements as direction by the EPA Tas Manager through written technical 	TBD by written Technical Direction
All	direction into VSAT Web for the development of VSAT Web 2.0.	
All	 Functional versions of VSAT Web 2.0 for EPA and stakeholder testing and review. 	
Task 4: Devel	op Water Sector Cybersecurity Materials	
Objective	Deliverables	Date
1	 Up to 2 brief assessment, planning, and other documents developed in response to requests by the National Security Council, GAO, or other government entities or infrastructure sector groups. 	TBD by written technical direction
2	Up to 3 brief, targeted guidance documents for underserved segments of the water sector, such as small systems and technical assistance providers.	TBD by written technical direction
3	Web page design and technical assistance as needed to support hosting key water sector cybersecurity materials on a public web site.	TBD by written technical direction
4	Up to 3 outreach documents that promote water sector cybersecurity.	TBD by written technical direction

VI. REPORTING REQUIREMENTS

Monthly Progress Reports (including a progress evaluation discussion) Financial Reports

VII. GREEN MEETINGS AND CONFERENCES

The contractor shall follow the provision of EPA prescription 1523.703-1, *Acquisition of environmentally preferable meeting and conference services (May 2007),* for the use of off-site commercial facilities for an EPA event, whether the event is a meeting, conference, training

session, or other purpose. Environmental preferability is defined at FAR 2.101, and shall be used when soliciting quotes or offers for meeting/conference services on behalf of the Agency.

VIII. CONFERENCES AND WORKSHOPS

The contractor shall immediately alert the WACOR to any anticipated event under the work assignment which may result in incurring an estimated \$20,000 or more cost, funded by EPA, specific to that event, meeting, training, etc. Those costs would include travel of both prime and consultant personnel, planning and facilitation costs, including all outlays for conference preparation, AV and rental of venue costs, etc. The EPA WACOR will then prepare for approval the internal paperwork for the event and will provide it to the CO. The CO will advise the contractor when appropriate signatures have been obtained. At that point, effort can proceed for the event. If the event is being sponsored by another EPA organization, the organization providing the planning is responsible for the approval.

Any event which meets the definition of a "conference," with total net expenditures greater than \$20,000, is required to submit EPA Electronic Form 5170 and Form 5170-A (with cost estimates/actuals). In case the workflow system is down and CORs require emergency approval, they can submit EPA Form 5170 (PDF) (2pp, 93K) (with cost estimates) to conference@epa.gov.

IX. SOFTWARE APPLICATION AND ACCESSIBILITY (SECTION 508 REHABILITATION ACT AND AMENDMENTS)

Software Application files, if delivered to the Government, shall conform to the requirements relating to accessibility as detailed to the 1998 amendments to the Rehabilitation Act, particularly, but not limited to, § 1194.21 Software applications and operating systems and § 1194.22 Webbased intranet and internet information and applications. See: http://www.section508.gov/

Preferred text format: MS Word, 8.0 or higher (Office 2007 or higher)

Preferred presentation format: Power Point, Office 2007 or higher Preferred graphics format: Each graphic is an individual GIF file

Preferred portable format: Adobe Acrobat, version 6.0

The WACOR shall identify which of delivered products will require 508 compliance.

QUALITY ASSURANCE SURVEILLANCE PLAN for WSD's Mission Support

Quality Assurance Surveillance Plan

The requirements contained in this WA are considered performance-based, focusing on the Agency's desired results and outcomes. The contractor shall be responsible for determining the most effective means by which these requirements will be fulfilled. In order to fulfill the requirements, the contractor shall design innovative processes and systems that can deliver the required services in a manner that will best meet the Agency's performance objectives. This performance-based requirement represents a challenge to the contractor to develop and apply innovative and efficient approaches for achieving results and meeting or exceeding the performance objectives, measures, and standards in Attachment 4 of the contract. The Contractor's performance will be reflected in the positive or negative evaluation offered by the Agency in the Contractor Performance Evaluation (CPE) which is evaluated annually (per the "Contractor Performance Evaluation" clause in the contract). The WACOR shall submit a complete annual review of the areas outlined in the Quality Assurance Surveillance Plan (QASP), included in the contract, which will then be utilized by the CLCOR in preparing the overall evaluations submitted annually in response to the Contractor Performance Evaluation requirements in the contract.

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Contract Nu	umber			Contra	act Period 08/	01/2015 To	07/31/:	2019	Title of Wo	ork Assianr	ment/SF	Site Nam	e	
EP-C-15	5-01:	2		Base		Option Period Nu	mber 3		Title of Work Assignment/SF Site Name Risk Assessment & Coordination					
Contractor Specify Section and paragraph of Contract SOW														
CSRA LLC 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.10, 2.14, 2.18										2.18				
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Comments:))												
= =	The purpose of this amendment 1 to CSRA (EP-C-15-012) WA 03-03 is to add new tasks 5-8 to provide the tools and resources necessary to support certain provisions of the America's Water Infrastructure Act of 2018													
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AMENDED WORK ASSIGNMENT

PERFORMANCE WORK STATEMENT (PWS)

Title: Risk Assessment and Consequence Analysis Tool Development, Improvement, Outreach / Homeland Security Coordination Activities / Cybersecurity

Amended to add new tasks 5-8 in support of America's Water Infrastructure Act of 2018

Period of Performance: August 1, 2018 to July 31, 2019

PWS Sections: 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.10, 2.14, 2.18

Contract No. EP-C-15-012

Work Assignment: WA-03-03

Additional LOE: Additional 2,500 hours for Tasks 5-8 Total LOE: 5,900 hours (original and amended)

Work Assignment Contract Officer Representative (WACOR):

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Task Managers

Task 1

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Task 7, 8

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I. PURPOSE:

The purpose of this amendment is to provide tools and resources necessary for EPA to implement certain provisions of the America's Water Infrastructure Act of 2018 (hereinafter, AWIA). The additional tasking in this amendment falls within the original purpose of this performance work statement (PWS), which is to reduce risk and increase resilience from all hazards within the Water Sector.

In addition to the original tasks in this PWS, the contractor shall be expected to do the following under this amendment:

- Revise EPA guidance on the development of water sector Emergency Response Plans (ERP) to align with the AWIA;
- Develop guidance for very small water systems with basic principles of how to conduct a resilience assessment, prepare an ERP, and address threats from malevolent acts and natural hazards;
- Update EPA's Route to Resilience Tool, an interactive computer-based program that aids water systems in becoming resilient to all-hazards incidents; and
- Revise and update an existing EPA document with baseline information on malevolent acts of relevance to community water systems.

The overall purpose of this PWS is to reduce risk and increase resilience for all hazards within the Water Sector through the following:

- Enabling the sector to better and more easily assess risks to all hazards and evaluate the cost-effectiveness of measures to reduce risks;
- Conducting risk assessment and consequence analysis tool outreach, which will increase knowledge in the water sector of ways to assess risks and consequences;
- Supporting coordination of activities between the EPA, Department of Homeland Security, and other public and private water sector stakeholders; and
- Promoting the adoption of cybersecurity best practices.

To achieve this purpose, the contractor shall be expected to do the following:

- Develop and improve Vulnerability Self-Assessment Tool (VSAT) a water sector risk assessment tool;
- Conduct risk assessment and consequence analysis tool training and outreach;
- Support Homeland Security coordination activities; and
- Develop materials that promote water sector cybersecurity.

The outputs of this work assignment are intended for water and wastewater system owners and operators, as well as federal, state, local, tribal, and territorial officials that assist water sector facilities with participating in Water Sector infrastructure security and resilience activities.

This work assignment supports the mission of the Water Security Division (WSD) as described in the Water Security Strategy framework, which relates resources, activities, outputs, audience,

short- and long- term outcomes to the WSD pillars of Prevention, Detection, Response, and Recovery. Additionally, this work assignment contributes to the commitments made in EPA's *Strategic Plan: 2011 to 2015* and EPA's *Homeland Security Strategy (2004)*. Under EPA's *Strategic Plan*, reference is made to Goal 2 (Clean and Safe Water), Objective 2.1 (Protecting Human Health), Sub-objective 2.1.1 (Water Safe to Drink), and to the Cross-Goal on homeland security. Under EPA's *Homeland Security Strategy*, reference is made to Objective 1 (Critical Infrastructure Protection).

In support of these requirements, this contract supports the nation's drinking and wastewater infrastructure, collectively known as the Water Sector, in being informed, coordinated, and prepared to prevent, detect, respond to, and recover from terrorist attack and other intentional acts, natural disasters, and other hazards (referred to as the "all hazards' approach), which may also occur, including the needs and challenges posed by natural disasters, catastrophic events, adaptation and impacts of climate change, floods, earthquakes, pandemic illness, and any other events which impact the safety and availability of our water supply.

In pursuit of these efforts, the contractor may be tasked with preparing a correlation summary comparing the results under this work assignment to the components of the Water Security Strategy framework.

II. BACKGROUND:

Presidential Preparedness Directives (PPD) 8, 21, and 41, as well as Executive Orders 13800 and 13686, assign responsibilities to the EPA to strengthen and maintain the security and resilience of the Nations critical infrastructure, both physical and cyber. PPD - 21 designates the EPA as the lead agency or Sector-Specific Agency (SSA) for the Nation's Water Sector. One of many outputs related to PPD - 21 was the development of the National Infrastructure Protection Plan (NIPP) and the accompanying Sector-Specific Plans (SSPs). These plans/strategies have logically driven critical infrastructure protection initiatives towards an all-hazards (man-made and natural disasters) approach.

EPA works with the Water Sector, Federal, State, tribal and local governments, and all stakeholders to:

- 1. Protect the Water Sector's infrastructure from all hazards and to enhance resilience capabilities.
- 2. Conduct or facilitate "all-hazards" risk assessment and consequence analysis;
- 3. Encourage risk management strategies to reduce vulnerabilities and mitigate public health and economic impacts (consequence); and
- 4. Promote communication, collaboration, and information sharing and analysis.

All-hazards related critical infrastructure protection activities are an extension of EPA's long-term

mission to protect human health and the environment. Accordingly, EPA and its Water Sector security partners continue to work together and are implementing a strategy to identify, prioritize, and coordinate the protection of critical Water Sector infrastructure. This strategy assists in improving Water Sector awareness, preparedness and security posture, as well as increasing resilience - in a consistent, sustainable, effective, and measurable manner.

This work assignment will support the ongoing critical infrastructure protection coordination activities/initiatives that the Agency has initiated in collaboration with the Department of Homeland Security (DHS) and water sector partners. It includes development, outreach, and training on risk assessment and analysis tools, specifically the Vulnerability Self-Assessment Tool (VSAT) and Water Health and Economic Analysis Tool (WHEAT), and efforts to promote the adoption of cybersecurity best practices in the water sector.

Additional background for this amendment is as follows: On October 23, 2018, the America's Water Infrastructure Act of 2018 was signed into law. Section 2013 of this law amends Section 1433 of the Safe Drinking Water Act. This section will require community (drinking) water systems serving more than 3,300 people to develop or update risk assessments and ERPs. The law includes components that the risk assessments and ERPs must address and establishes deadlines by which water systems must send a certification of completion of the risk assessments and ERPs to EPA. This law also requires EPA to develop baseline information on malevolent threats of relevance to water systems, and to develop guidance for very small water systems on resilience assessments, ERPs, and threat reduction.

III. QA REQUIREMENTS:

The tasks in this WA do not require environmental measurements. Consistent with the Agency's Quality Assurance (QA) requirements, the contractor does not need to supplement the Contract Level Quality Management Plan (QMP) or prepare a Project Specific Quality Assurance project Plan (PQAPP).

IV. DETAILED TASK DESCRIPTION:

All direction under this WA will be provided as written technical direction from the WACOR, Alternate WACOR, or Task Manager (TM), as appropriate. If provided first as verbal technical direction to the contractor, it will be confirmed in writing within 5 calendar days, with a copy to the CL COR and the Contracting Officer (CO), and is subject to the limitations of the technical direction contract clause. Each initial deliverable shall be provided to the EPA WACOR in draft form for review and comment. The contractor shall incorporate WACOR/TM review comments into revisions of the drafts. All drafts and final reports shall be approved by the WACOR.

The contractor shall perform the following tasks:

Task 0: Work Plan (WP), Progress Evaluations, and Monthly Progress Reports Task Manager: Daniel C. Schmelling

The contractor shall develop a revised work plan that describes how the new Tasks 5 - 8 will be carried out. The work plan shall include a schedule, staffing plan, level of effort (LOE), and cost estimate for each task, the contractor's key assumptions on which staffing plan and budget are based, and qualifications of proposed staff.

In addition, the work plan shall include the requirement that all electronic and information technology (EIT) and all EIT deliverables be Section 508 compliant in accordance with the policies referenced at http://www.epa.gov/accessibility/. If a subcontractor(s) is proposed and subcontractors are outside the local metropolitan area, the contractor shall include information on plans to manage work and contract costs. Finally, the work plan shall specify that a Supplemental Project Specific Quality Assurance Project Plan (SQAPP) appending the Contract QAPP or a PQAPP is not required. This task also includes monthly progress and financial reports. Monthly financial reports must include a table with the invoice LOE and cost amount broken out by the tasks in this WA.

In each monthly progress report, the contractor shall, at the introduction to the discussion of this WA, discuss actual progress toward achieving the purpose of this work assignment, including problems encountered, issues that may need to be resolved, and anticipated timing for completing the goals of the WA. The contractor shall provide an overview of contract projects, striving to implement efficiencies in performance when complimentary requirements are issued. The contractor shall assure that duplication of effort relative to other ongoing WA under this contract is not occurring.

The contractor shall also include any requested task level metrics to measure progress toward established goals.

<u>Deliverables:</u> Listed in Section V of this performance work statement.

Task 1: Water Sector Homeland Security meeting/document support Task Manager: John A. DeGour

No change.

Task 2: Provide Technical Support for VSAT Web 1.0 Task Manager: Daniel C. Schmelling

No change.

Task 3: Design VSAT Web Version 2.0 Task Manager: Daniel C. Schmelling

No change.

Task 4: Develop Water Sector Cybersecurity Materials Task Manager: Daniel C. Schmelling

No change.

Task 5: Update Baseline Threat Information Document Task Manager: Daniel C. Schmelling

The contractor shall update the document "Baseline Threat Information for Vulnerability Assessments of Community Water Systems," which EPA developed pursuant to the 2002 Bioterrorism Act. EPA will provide the existing document to the contractor.

The update to this document is being performed to comply with AWIA Section 2013 (a)(2). The contractor shall review the language of this section to ensure an understanding of the applicable requirements for the document.

With this update, the contractor shall make significant, deep revisions across the existing document. While the general outline of the existing document may be retained, it is outdated in respect to terminology (e.g., use of risk and resilience assessment instead of vulnerability assessment), current threat environment (e.g., likelihood of different threat categories), resources and tools, and considerations for reducing risk. An overriding priority in these revisions is the alignment of this document with the asset categories in AWIA Section 2013(a), and the threat categories to be used in VSAT Web 2.0 (described under Task 3 of this PWS and subsequent technical direction thereto).

The contractor shall note that under the AWIA, **EPA has a statutory requirement to publish this document not later than August 1, 2019.** Consequently, the dates for intermediate deliverables as specified below in this PWS are critical and cannot be delayed.

No travel is expected for task.

Task 6: Develop Guidance to Small Public Water Systems Task Manager: Daniel C. Schmelling

The contractor shall develop a document on Guidance to Small Public Water Systems. EPA is providing this guidance to comply with AWIA Section 2013 (e). The contractor shall review the language of this section to ensure an understanding of the applicable requirements for the document.

This guidance must assist community water systems serving fewer than 3,300 people with conducing risk assessments, preparing ERPs, and addressing threats from malevolent acts and natural hazards. Specifically, it must guide a small water system operator through identifying the

most significant threats to maintaining water system operations, basic countermeasures and available resources to reduce the risk from those threats, and the development of a brief ERP.

This guidance must be short (not longer than 4 pages), highly graphical, and designed for users with very limited time, resources, and technical expertise. It must focus on the types of processes and threats relevant to very small water systems and provide an orientation to applicable resources available from EPA and other public and private federal, state, and local water sector partners. The development of this guidance will require the direct and active involvement of persons with significant experience working with small water systems in assessing risk and preparing ERPs.

No travel is expected for task.

Task 7: Revise the Emergency Response Plan Guidance Document Task Manager: Brian Pickard

Under previous work supported by the Horsley Witten Group Inc., EPA developed an interactive Emergency Response Plan (ERP) Guidance Document. This document was based on an outline that reflected input from a water sector focus group. However, the current ERP Guidance was written prior to enactment of the AWIA, and it does not reflect the requirements in AWIA Section 2013(b).

Under this task, the contractor shall revise the existing ERP Guidance document to fully align with AWIA Section 2013(b). This alignment shall require the contractor to revise the wording, structure, organization, and content of the existing document to match the wording, order and requirements in each paragraph of Section 2013(b). The contractor shall also add functionality to the ERP Guidance to generate a certification template to allow water systems to fulfill the certification requirement in Section 2013(b).

EPA will provide the contractor with the existing ERP Guidance and an unformatted version of the ERP Certification Statement. Revising the ERP Guidance under this task will require the significant and active involvement of personnel with recent experience in the development of ERP guidance for public water systems.

No travel is expected for task.

Task 8: Update the Route to Resilience Tool Task Manager: Brian Pickard

The contractor shall provide support to EPA for updating the Route to Resilience Tool, an interactive computer-based program to aid drinking water utilities in becoming resilient to all-hazards incidents. Essential activities include revising the software and associated components (e.g., report, on-screen text, etc.) to include new EPA, Water Sector and AWIA-related products and services. The contractor shall also trouble shoot and fix any coding issues discovered since the

initial release of the tool.

The contractor shall be responsible for updating the software, including coding, platform development, making the tool 508 compliant. All software shall be in compliance with applicable EPA software development and website requirements and the final software shall be loaded on to the EPA/WSD webpage. Final documentation concerning coding and software requirements should be delivered to the EPA COR. <u>Updating the Route to Resilience Tool under this task will require the significant and active involvement of personnel with recent experience in the design and operation of this tool.</u>

No travel is expected for this subtask.

V. SCHEDULE/DELIVERABLES

The schedule of deliverables is included within each specific task.

SCHEDULE/DELIVERABLES

Deliverables	Date
Sector Homeland Security meeting/document	support
e Technical Support for VSAT Web 1.0	
ective Deliverables Date	
n VSAT Web Version 2.0	
n VSAT Web Version 2.0	
Baseline Threat Information Document	
Deliverables	Date
	Deliverables n VSAT Web Version 2.0 n VSAT Web Version 2.0 e Baseline Threat Information Document

	 Draft and final outlines for complete revised document 	Draft due March 1, 2019
		Final due not later than 1 week after receiving written comments from EPA on draft.
	First complete draft of document	April 1, 2019
	Second complete draft of document	Not later than 3 weeks after receiving written comments from EPA on previous draft
	Third complete draft of document	Not later than 3 weeks after receiving written comments from EPA on previous draft
	Final document	July 1, 2019
Task 6: Dev	elop Guidance to Small Public Water Systems	
Objective	Deliverables	Date
	Draft and final outlines for complete revised document	Final due not later than 1 week after receiving written comments from EPA on draft.
		Final due not later than 1 week after receiving
	revised document	Final due not later than 1 week after receiving written comments from EPA on draft.
	revised document First complete draft of document	Final due not later than 1 week after receiving written comments from EPA on draft. June 1, 2019 Not later than 3 weeks after receiving written comments from EPA on
	First complete draft of document Second complete draft of document	Final due not later than 1 week after receiving written comments from EPA on draft. June 1, 2019 Not later than 3 weeks after receiving written comments from EPA on previous draft Not later than 3 weeks after receiving written comments from EPA on
Task 7: Rev	First complete draft of document Second complete draft of document Third complete draft of document	Final due not later than 1 week after receiving written comments from EPA on draft. June 1, 2019 Not later than 3 weeks after receiving written comments from EPA on previous draft Not later than 3 weeks after receiving written comments from EPA on previous draft July 31, 2019

	Draft and final outlines for complete revised document	Draft due April 1, 2019
		Final due not later than 1 week after receiving
		written comments from EPA on draft.
	First complete draft of document	May 31, 2019
	Second complete draft of document	Not later than 3 weeks after receiving written comments from EPA on previous draft
	Third complete draft of document	Not later than 3 weeks after receiving written comments from EPA on previous draft
	Final document	July 31, 2019
Task 8: Upda	ate the Route to Resilience Tool	
Objective	Deliverables	Date
	Draft and final wire diagram or equivalent for complete revised tool	Draft due June 1, 2019 Final due not later than 1 week after receiving written comments from EPA on draft.
	Beta version of revised tool	July 1, 2019
	Final deployed revised tool	July 31, 2019

VI. REPORTING REQUIREMENTS

Monthly Progress Reports (including a progress evaluation discussion) Financial Reports

VII. GREEN MEETINGS AND CONFERENCES

The contractor shall follow the provision of EPA prescription 1523.703-1, *Acquisition of environmentally preferable meeting and conference services (May 2007)*, for the use of off-site

commercial facilities for an EPA event, whether the event is a meeting, conference, training session, or other purpose. Environmental preferability is defined at FAR 2.101, and shall be used when soliciting quotes or offers for meeting/conference services on behalf of the Agency.

VIII. CONFERENCES AND WORKSHOPS

The contractor shall immediately alert the WACOR to any anticipated event under the work assignment which may result in incurring an estimated \$20,000 or more cost, funded by EPA, specific to that event, meeting, training, etc. Those costs would include travel of both prime and consultant personnel, planning and facilitation costs, including all outlays for conference preparation, AV and rental of venue costs, etc. The EPA WACOR will then prepare for approval the internal paperwork for the event and will provide it to the CO. The CO will advise the contractor when appropriate signatures have been obtained. At that point, effort can proceed for the event. If the event is being sponsored by another EPA organization, the organization providing the planning is responsible for the approval.

Any event which meets the definition of a "conference," with total net expenditures greater than \$20,000, is required to submit EPA Electronic Form 5170 and Form 5170-A (with cost estimates/actuals). In case the workflow system is down and CORs require emergency approval, they can submit EPA Form 5170 (PDF) (2pp, 93K) (with cost estimates) to conference@epa.gov.

IX. SOFTWARE APPLICATION AND ACCESSIBILITY (SECTION 508 REHABILITATION ACT AND AMENDMENTS)

Software Application files, if delivered to the Government, shall conform to the requirements relating to accessibility as detailed to the 1998 amendments to the Rehabilitation Act, particularly, but not limited to, § 1194.21 Software applications and operating systems and § 1194.22 Webbased intranet and internet information and applications. See: http://www.section508.gov/

Preferred text format: MS Word, 8.0 or higher (Office 2007 or higher)

Preferred presentation format: Power Point, Office 2007 or higher Preferred graphics format: Each graphic is an individual GIF file

Preferred portable format: Adobe Acrobat, version 6.0

The WACOR shall identify which of delivered products will require 508 compliance.

QUALITY ASSURANCE SURVEILLANCE PLAN for WSD's Mission Support

Quality Assurance Surveillance Plan

The requirements contained in this WA are considered performance-based, focusing on the Agency's desired results and outcomes. The contractor shall be responsible for determining the most effective means by which these requirements will be fulfilled. In order to fulfill the requirements, the contractor shall design innovative processes and systems that can deliver the required services in a manner that will best meet the Agency's performance objectives. This performance-based requirement represents a challenge to the contractor to develop and apply innovative and efficient approaches for achieving results and meeting or exceeding the performance objectives, measures, and standards in Attachment 4 of the contract. The Contractor's performance will be reflected in the positive or negative evaluation offered by the Agency in the Contractor Performance Evaluation (CPE) which is evaluated annually (per the "Contractor Performance Evaluation" clause in the contract). The WACOR shall submit a complete annual review of the areas outlined in the Quality Assurance Surveillance Plan (QASP), included in the contract, which will then be utilized by the CLCOR in preparing the overall evaluations submitted annually in response to the Contractor Performance Evaluation requirements in the contract.

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PERFORMANCE WORK STATEMENT CSRA EP-C-15-012

Work Assignment No. 03-04 Period of Performance: 8/1/18-7/31/19

I. ADMINISTRATIVE:

A. Title: Support for Creating Resilient Water Utilities Initiative: Tool Development, Technical Assistance, and Education

B. Work Assignment Manager: Alternate Work Assignment Manager:

Curt Baranowski Ashley Greene

Office of Ground Water and Drinking

Office of Ground Water and Drinking

Water (OGWDW) Water (OGWDW)

1200 Pennsylvania Avenue, NW (MC: 1200 Pennsylvania Avenue, NW (MC:

4608-T) 4608-T)

Washington, DC 20460 Washington, DC 20460

202-564-0636 202-566-1738

<u>baranowski.curt@epa.gov</u> <u>greene.ashley@epa.gov</u>

C. Quality Assurance:

The tasks in this work assignment do require environmental measurements. Consistent with the Agency's quality assurance (QA) requirements, the contractor needs to supplement the Contract Level Quality Assurance Project Plan (QAPP) or to prepare a Project-Specific Quality Assurance Project Plan (PQAPP). The contractor shall immediately notify the Contract Level Contracting Officer Representative (CL-COR) of any significant QA issues, and how they are being addressed in the monthly progress reports as specified below under Task 0. For deliverables utilizing geospatial datasets, quality assurance and metadata support should adhere to Agency approved Geospatial procedures and standards, see: https://www.epa.gov/geospatial/geospatial-policies-and-standards.

D. Background:

The U.S. Environmental Protection Agency (EPA or Agency) has established its Creating Resilient Water Utilities (CRWU) initiative to enable the water sector to identify, develop and implement infrastructure improvements and operational strategies that account for the risk associated with current and long-term weather patterns. The water sector includes drinking water, wastewater and storm water utilities; CRWU recognizes that any comprehensive approach to utility resilience must include both adaptation and mitigation. It also seeks to engage a broad range of water sector stakeholders in developing a holistic approach by which these risks can be addressed at the utility level.

II. OBJECTIVE:

The contractor shall support the priorities and requirements of the Water Security Division (WSD) as related to the CRWU initiative activities. The work assignment (WA) supports EPA's efforts to pursue activities related to the resilience of the Nation's water sector

infrastructure to threats from various entities, including the associated challenge to the water sector's ability to fulfill its public health and environmental mission. Extreme weather events, sea-level rise, temperature changes, and shifting precipitation and runoff patterns, all have significant implications for sustainability of the Nation's water sector. The water sector will need to develop effective adaptation strategies to address potential impacts.

This work assignment supports the mission of WSD as described in the Water Security Strategy framework, which relates resources, activities, outputs, audience, short- and long-term outcomes to the WSD pillars of Prevention, Detection, Response, and Recovery. Additionally, this work assignment contributes to the commitments made in EPA's *Strategic Plan: 2011 to 2015* and EPA's *Homeland Security Strategy (2004)*. Under EPA's *Strategic Plan*, reference is made to Goal 2 (Clean and Safe Water), Objective 2.1 (Protecting Human Health), Sub-objective 2.1.1 (Water Safe to Drink), and to the Cross-Goal on homeland security. Under EPA's *Homeland Security Strategy*, reference is made to Objective 1 (Critical Infrastructure Protection).

The intended audience for this project is drinking water, wastewater, and stormwater utilities, as well as other parties that support these utilities as they begin to understand and consider challenges, adaptation options, and financing for these options to build resilience and increase overall effective utility management.

Partners in CRWU-related coordination efforts include but are not limited to the following:

- Drinking Water and Wastewater Associations and Stakeholders
- EPA program offices such as Office of Research and Development and various other components of Office of Water (e.g., Office of Wastewater Management, Drinking Water Protection Division, and Office of Wetlands, Oceans, and Watersheds)
- Federal Agencies
- EPA Regional offices

This work shall be completed commensurate with Sections 2.2, 2.5, 2.10, 2.15, 2.16, 3.1, 3.3, 3.4, 3.5, and 3.6 of the Contract Level PWS. The level of effort estimated for this work assignment is 6,250 hours.

III. TASK DETAIL:

The contractor shall perform the following tasks:

Task 0 - Work Plan Submission:

The contractor shall prepare a detailed work plan and budget for the accomplishment of the indicated tasks in accordance with the clause Work Assignments (EPAAR 1552.211-74). The work plan shall include a description of (a) proposed staff, (b) the number of hours and labor classifications proposed for each task, broken down to task level, to include both prime contractor and subcontractor labor, and (c) a list of deliverables, with due dates and schedule for deliverables.

In addition, the work plan shall specify that a Supplemental Project Specific Quality Assurance Project Plan (SQAPP) appending the Contract Level Quality Assurance Project Plan (QAPP) or a Project-Specific Quality Assurance Project Plan (PQAPP) is required.

In addition, the contractor shall prepare a statement indicating that this WA is a continuation of WA 02-04. This task also includes monthly progress and financial reports. Monthly financial reports must include a table with the invoice level of effort (LOE) and costs broken out by the tasks in this WA. The monthly progress report shall indicate, in a separate QA section, whether significant QA issues have been identified and how they are being resolved. The contractor shall immediately notify the CL-COR and EPA WA Contracting Officer's Representative (WACOR) if any changes to the collection and analysis of the data is needed and prepare a PQAPP accordingly.

The contractor shall immediately alert the EPA WACOR to any anticipated event under the work assignment which may result in incurring an estimated \$20,000 or more cost, funded by EPA, specific to that event (e.g., meeting or training). Those costs would include travel of prime and consultant personnel, planning and facilitation costs, audio/visual, and rental of venue costs. The EPA WACOR will prepare approval internal paperwork for the event and will advise the contractor when appropriate signatures have been obtained. At that point, effort can proceed for the event. If the event is being sponsored by another EPA organization, the organization providing the planning is responsible for the approval.

Task 1 - Programming and Improvement of and User Technical Support for Creating Resilient Water Utility Tools:

The contractor shall support the programming and improvement, including "bug" fixes, of existing CRWU initiative tools such as the CREAT and the Extreme Events Workshop Planner (EEWP). This may require the contractor to maintain and update existing tools, as well as coordinate with and support EPA's National Computer Center support.

The contractor shall develop and deliver Version 3.1 of CREAT, based on the programming progress made during option period 02 of this work assignment, which will include several updates to the user interface, workflow, and underlying database. The specific changes, to be provided through Technical Direction, shall be generally grouped as follows: 1) Fixes to issues identified during reviews of CREAT; 2) Revisions and necessary refinements edits to software content; and 3) Expansion of CREAT database content.

The contractor shall develop an Extreme Events Workshop Planner (EEWP) framework document that streamlines the existing version of the tool, based on materials and feedback developed under CRWU and Water Utility Climate Alliance (WUCA) workshops (see Task 2 below), as well as, addressing an online training approach for the EEWP. This document will be used for potential future programming to make the EEWP into a video online training module for utility workshops, as well as become a portal for training materials.

The contactor shall provide user technical support for CRWU initiative tools. The contractor shall address user support needs through phone, webinar or via email.

Deliverable: See deliverable schedule below for details.

Task 2 – Continued Utility Assistance through Training Workshops in Coordination with EPA Regions and Water Sector Stakeholders:

Support and provide extreme weather event, long-term planning workshops across the U.S. to train water sector utilities, States, associations, environmental trainers, etc. on the use and application of CREAT and other CRWU initiative tools.

Deliverable:

- The contractor shall support the provision of the Los Angeles, CA two-day workshop developed under WA 02-04 in coordination with the Water Utility Climate Alliance (WUCA).
- The contractor shall support the development and provision of one new two-day WUCA workshop based on the above-mentioned Los Angeles, CA workshop, which will be held in Portland, OR. Thirty (30) to forty (40) participants will be trained in this workshop. For planning purposes, assume travel for three (3) contractors and two (2) subject matter experts for this workshop.
- Support, develop, and provide five (5) new one-day long-term planning and resilience workshops; these workshops will train water sector utilities, States, associations, consultants, environmental trainers, and other water sector stakeholders on the use and application of CREAT and other CRWU initiative tools.

In coordination with EPA Headquarters and Regional offices, training workshops shall be developed based on similar past formats. Participants shall receive training on specific threats to their region via subject matter experts and local case studies. Utilities shall start to build a risk assessment file within CREAT. Thirty (30) to forty (40) participants shall be trained in each workshop. For planning purposes, assume travel for three (3) contractors and two (2) subject matter experts for each workshop. For cost estimate purposes, assume possible locations such as Tucson, AZ or Portland, ME. Meeting location(s) are subject to change, as well as partner input; the exact location will be identified through technical direction by the WACOR.

Deliverable: See deliverable schedule below for details.

Task 3 – Additional Outreach for CRWU and Monitoring of CRWU Initiative Performance (Metrics):

To continue to support the CRWU initiative, the contractor shall, upon receipt of Technical Direction:

- Provide document assistance and scientific and technical support to facilitate and enhance EPA's CRWU efforts. Specific activities will be assigned through written technical direction by the EPA WACOR in response to the EPA's support needs.
- Support generic outreach and metrics tracking. While outreach is a part of every task, some specific actions such as product releases, publications, conference participation and briefings may necessitate updates to metrics.

- Support EPA's ability to invite and provide travel support to up to five (5) previous
 CREAT assessment participants as utility SMEs to advocate and speak on behalf of CRWU
 and CREAT at conferences. For cost estimate purposes, assume possible locations such as
 New Orleans, LA or San Antonio, TX. Meeting location(s) are subject to change, as well
 as partner input; the exact location will be identified through technical direction by the
 WACOR.
- Provide outreach on CRWU initiative resources by developing content, organizing, and providing three (3), one-hour webinars on relevant and unique water sector extreme weather event, long-term planning risk assessment tools and subjects, as well as international coordination; with a heavy focus on and promotion of CREAT.

Deliverable: See deliverable schedule below for details.

IV. SCHEDULE OF DELIVERABLES:

Specific deliverables, by Task, are detailed in the table below.

This work requires experience in the development and manipulation of basic geospatial datasets; map layer, geodatabases and ESRI map application templates. It is necessary for the contractor to have familiarity with EPA's Geoplatform, or a similar platform at another federal agency or department.

TASK No.	DELIVERABLE	DATE DUE TO EPA						
Task 0 - Wor	rkplan Submission							
Workplan and	d budget	Per contract						
Monthly prog	ress reports	Monthly						
Task 1 - Programming and Improvement of and User Technical Support for Creating Resilient Water Utility Tools								
posting to EP shall include: Improvi Improvi Ensurin Adding land mo Water F Updatin Updatin	EAT 3.1 and deliver the final product ready for A's website. CREAT programming and work ng existing and adding new tutorials; ng CREAT reports; g backwards and tablet compatibility and tablet; data sets for historical and projected flow, vertical evement, and EPA's regional economic data from lealth Economic and Analysis Tool; g the CREAT methodology guide; and g adaptive measure cost data, assume a maximum easure updates.	April 2019						
	deliver the EEWP framework document.	May 2019						

Assume 5 technical assistance requests per month related to	To be determined by
CRWU Tool Support.	technical direction; an
	exact date cannot be
Assume 10 requests, in this option period, to assist in	determined.
converting CREAT 2.0 files to the latest version of the tool.	
Fix CRWU tool "Bugs."	To be determined by
	technical direction; an
	exact date cannot be
	determined.
Task 2 – Continued Utility Assistance through Training World	kshops in Coordination
with EPA Regions and Water Sector Stakeholders	
Support the Los Angeles, CA workshop developed in	September 2018
coordination with the WUCA. Documentation (summary notes)	
from the workshop.	
Support the development and provision of the new workshop	January 2019
developed in coordination with the WUCA. Documentation	-
(summary notes) from the workshop.	
Support, develop, and provide five (5) new CRWU and CREAT	April 2019
workshops. Documentation (summary notes) from the	
workshop.	
Task 3 – Additional Outreach for CRWU and Monitoring of	CRWU Initiative
Performance (Metrics)	
Support for utility SMEs (up to 5 trips).	To be determined by
• \ 1 - /	technical direction; an
	exact date cannot be
	determined.
Document assistance and scientific and technical support.	To be determined by
	technical direction; an
	exact date cannot be
	determined.
Quarterly outreach metrics updates.	September 2018
	December 2018
	March 2019
	June 2019
Support three (3) CRWU Webinars.	April 2019
	•

V. MISCELLANEOUS:

Software Application Files and Accessibility:

Software application files, if delivered to the Government, shall conform to the requirements relating to accessibility as detailed to the 1998 amendments to the Rehabilitation Act, particularly, but not limited to, § 1194.21 Software applications and operating systems and §

1194.22 Web-based intranet and internet information and applications. See: http://www.section508.gov/

Regarding FITARA, online publications of maps will leverage EPA's GeoPlatform technical architecture, hardware and software, to the fullest extent possible for public search and discovery. Quality assurance and metadata support should adhere to Agency approved Geospatial procedures and standards, see: https://www.epa.gov/geospatial/geospatial-policies-and-standards. All geospatial metadata will, as required by OMB, be published in EPA's Environmental Data Gateway which serves Data.gov, see: https://edg.epa.gov/metadata/catalog/main/home.page

Preferred text format: MS Word 8.0 or higher (Office 2007 or higher)

Preferred presentation format: Power Point, Office 2007 or higher Each graphic is an individual GIF file

Preferred portable format: Adobe Acrobat, version 6.0

Preferred technology: ESRI ArcGIS Desktop 10.4 or higher

The EPA WACOR shall identify which of delivered products will require 508 compliance.

VI. TRAVEL

The contractor shall anticipate thirty-one (31) contractor trips and twenty-three (23) SME trips in support of this WA over the duration of the performance period. Travel shall be directly related to the scope of this Work Assignment and support advancement of the work under Tasks 1, 2, 3, 4, and 5, as well as the EPA's Mission to ensure protection of human health and the environment.

VII. MEETINGS, CONFERENCES, TRAINING EVENTS, AWARD CEREMONIES AND RECEPTIONS

All appropriate clearances and approvals required by Agency policy in support of all conference related activities and expenses, including support of meetings, conferences, training events, award ceremonies and receptions, including the form 5170 for all meetings costing more than \$20,000, shall be obtained by the EPA CL-COR as needed and provided to the Contracting Officer (CO). Work under conference related activities and expenses shall not occur until this approval is obtained and provided by the EPA CL-COR.

VIII. CONTRACTOR IDENTIFICATION

Contractor personnel shall always identify themselves as contractor employees by name and organization and physically display that information through an identification badge. Contractor personnel are prohibited from acting as the Agency's official representative. The contractor shall refer any questions relating to the interpretation of EPA policy, guidance, or regulation to the CO, CL-COR, or WACOR.

IX. PRINTING

All copying and printing shall be accomplished within the limitations of the printing clause of the contract.

X. Technical Direction

The Contract level COR or an authorized individual is permitted to provide technical direction. Technical direction must be within the statement of work of the contract and includes: (1) Direction to the contractor which assists the contractor in accomplishing the Statement of Work and (2) Comments on and approval of reports or other deliverables. Technical direction will be issued in writing or confirmed in writing within five (5) calendar days after verbal issuance. One copy of the technical direction memorandum will be forwarded to the Contracting Officer and the Contract Level Contracting Officer Representative.

XI. QUALITY ASSURANCE SURVEILLANCE PLAN:

All task(s) identified in the performance work statement above are subject to review and approval by the EPA WACOR based on the general guidelines of the contract quality assurance surveillance plan regarding: Programmatic, cost control, timeliness/deliverables, and document development standards.

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The purpose of this amendment 2 to CSRA (EP-C-15-012) WA 03-04 is to increase the CPFF NTE ceiling to \$625,000. The following task level ceilings are now as follows: Task 0: \$90K, Task 1: \$250K and Task 2: \$275K. Task 3 is decreased by \$15K to a total of \$10K.													
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